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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,591

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Don W. Arnold

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EXAMINER

WONG, TINA MEI SENG

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,591	Applicant(s) ARNOLD ET AL.	
	Examiner TINA M. WONG	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14 is/are allowed.
- 6) ☐ Claim(s) 15-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2874

DETAILED ACTION

This Office action is responsive to Applicant's response submitted 25 November 2009.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,315,461 to Cairns.

In regards to claim 15, Cairns teaches a junction comprising an elongate component (78) which passes through the interface between two substrates (10 & 12), at least one of the substrates being a microfluidic substrate (fluid inside bladder 35 & 84), and the elongate component being surrounded, at the interface, by a gasket (Figure 5 & 6A). Although Cairns does not expressly teach the microfabricated chip to be prepared by a process of dividing microfabricated composites and substrates into a plurality of microfabricated chips the limitation is a method limitation in a device claim. Applicant is claiming a product, not a method of manufacturing the product. The patent being sought in the preceding claims is an end product that is met by the previously applied references.

Claims 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication 2004/0017981 to Jovanovich et al.

Art Unit: 2874

In regards to claim 15, Jovanovich et al teaches a junction comprising an elongate component (pins) which passes through the interface between two substrates (1081 & 1083), at least one of the substrates being a microfluidic substrate and the elongate component being surrounded, at the interface, by a gasket (1082). (Figure 33 & [0154]) Although Jovanovich et al does not expressly teach the microfabricated chip to be prepared by a process of dividing microfabricated composites and substrates into a plurality of microfabricated chips the limitation is a method limitation in a device claim. Applicant is claiming a product, not a method of manufacturing the product. The patent being sought in the preceding claims is an end product that is met by the previously applied references.

In regards to claims 16, 19 and 20, Jovanovich et al teaches a method of making a fluid-tight junction, which comprises providing two microfluidic substrates (1027 & 1025), each substrate comprising a microfabricated chip and each having a pair of alignment features (sides that touches the tray 1091) thereon, wherein one of which has an elongate component extending from it (999 pins) and wherein the other of which has a conduit within it (must have bores where pins are inserted), placing the substrates on an alignment jig (1091 tray) with the alignment features (side walls) in contact with the alignment jig and sliding one or both of the substrates along the alignment jig so that the elongate component enters the conduit. (Figure 25)

In regards to claim 17, Jovanovich et al teaches an assembly which comprises a microfluidic substrate (1025/1027) and which has two parallel side faces each of which includes a groove (capillary tube sections 1001 entering the substrate), the grooves being separated from each other by a constant distance and preferably lying in the same plane. (Figure 29)

Art Unit: 2874

In regards to claim 18, Jovanovich et al further teaches (a) providing a microfabricated composite having a plurality of groove-forming conduits which are parallel to each other and which preferably lie in the same conduit plane. But Jovanovich et al fails to expressly teach (b) dividing the composite along a plurality of groove-forming planes which are parallel to each other and each of which (i) is at right angles to the conduit plane and (ii) passes through one of the conduits, thus producing a plurality of microfluidic chips, and a plurality of mating planes which are parallel to each other and each of which is at right angles to the conduit plane and to the groove-forming planes, thus producing a plurality of assemblies. However, it is well known in the art to form components multiple times on the same substrate and cutting along the grooves to form a plurality of the same component. Not only is this concept applied in Applicant's known art, this same well known concept is applied in other arts, such as liquid crystals and the semiconductor art. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have cut the substrate along the grooved planes in order to form the same component multiple times. This not only saves time and money during the manufacturing process, but also allows for an increase in production of the microfluidic substrate.

Allowable Subject Matter

Claims 1-14 are allowed. As stated in the previous Office action, mailed 25 June 2009, the prior art of record fails to disclose or reasonably suggest the detailed alignment features as configured in relation to the conduit axis, the alignment face and the substrate faces as claimed by Applicant in addition to the accompanying features of the independent claim.

Response to Arguments

Applicant's arguments filed 24 November 2009 have been fully considered but they are not persuasive.

In regards to claim 15, Applicant argues the Cairns and Jovanovich et al reference does not teach several method limitations. However, independent claim 15 is a device claim, not a method claim. Applicant is claiming a product, not a method of manufacturing the product.

In regards to claims 16, 19, and 20, Applicant argues the sides of the tray and the pins can not be characterized as the pair of alignment features and the elongated components. However, the Examiner disagrees. The Examiner has pointed to the sides that touch the tray as the pair (two sides) of alignment features and the elongated components (999) pins extending from the substrate with the two alignment feature sides. This further would allow for the alignment jig (1091 tray) to come in contact with the alignment features (sides touching the tray), capable of sliding both or one of the substrates along the alignment jig (tray) in order to engage the elongated components with the conduit.

In regards to claims 17 and 18, Applicant argues the grooves are not in the same place as the substrate. However, this argument does not reflect the claim language. The claim can be reasonably interpreted as all of the grooves being separated and all of the grooves lying in the same place, which the Jovanovich et al reference clearly shows in the Figures.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2874

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TINA M. WONG whose telephone number is (571)272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Uyen-Chau Le can be reached on (571) 272-2397. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/599,591

Page 7

Art Unit: 2874

/Tina M Wong/

Primary Examiner, Art Unit 2874